
Progress Report

BH&SC Analytical Subcommittee

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Subcommittee Background

- BH&SC originally had analytical subcommittee that became dormant over time
- Implementation of 10 CFR 850 has revealed analytical vulnerabilities
 - Issues began to emerge in parallel among IH and analytical communities
 - Cross-talk fostered by lessons learned from SRS and other sites
- DOE Analytical Managers endorsed a “working group” proposal in 10/2003
- Led to proposal in 11/2003 to re-establish BH&SC Analytical Subcommittee

Subcommittee Charter

- Key goals:
 - Improve quality and consistency of methodologies
 - Foster communications among analytical and IH communities
 - Develop technical guidance and offer assistance to others

Current Subcommittee Membership

Membership:

- AWE Aldermaston (U.K.) – Ross Breese
- DOE-HQ – David Weitzman, Dan Marsick, Don Harvey
- Hanford – Joseph Samuels, Elton Hewitt, Stacey Bolling, Maureen Hamilton, John Trechter
- KCP – Bill Frede
- LANL – Chris Brink, Kathy Creek, Sandra Cruz, Cynthia Mahan, Gary Whitney
- LLNL – Rohit Shah
- NIOSH – Kevin Ashley, Mark Hoover
- ORNL – Mike Watkins
- OSHA – Steve Edwards, Phil Giles
- Pantex – Rick Copeland
- Rocky Flats – Jenelle Morris
- Sandia (NM) – Melecita Archuleta, Matt Custer
- SRS – Mike Brisson, Paula Cable-Dunlap, Amy Ekechukwu, Steve Jahn
- US Army – Geoffrey Braybrooke
- US Navy – John Bishop
- Y-12 – Tom Oatts, Larissa Welch
- Potential additional members from Paducah Gas Diffusion Plant, PNNL, AIHA Sampling and Lab Analysis Committee, Brush-Wellman

Initial Subcommittee Activities

- Began regular conference calls 12/03
 - Every 2-3 weeks
 - Typically 14-18 participants each call
- Kickoff meeting at SRS, 2/11-12/04
 - 12 in-person participants and 7 remote participants
 - Discussed questionnaire development
 - Developed issues list
 - Developed action item list
- Next subcommittee meeting will be at fall BH&SC meeting

Subcommittee Working Groups

- Sampling (co-leads: David Weitzman, Steve Jahn)
- Digestion (lead: Tom Oatts, Y-12)
- Analysis/Accreditation/Reporting (lead: Kevin Ashley, NIOSH)
- Future Needs (lead: Amy Ekechukwu, SRS)

Baseline Questionnaire

- Distributed to subcommittee on 3/17/04
- Distributed to full BH&SC on 3/22/04
- Responses so far (as of 4/19/04):
 - Modern Pit Facility Design Authority
 - IRSST, Quebec (Chantal Dion)
 - OSHA Salt Lake Technical Center
 - Pantex
 - LANL
 - Y-12
 - AWE Aldermaston
 - Paducah Gaseous Diffusion Plant
 - NIOSH-Cincinnati
 - SRS
 - Hanford
 - Sandia (NM)
 - LLNL
- Data to be compiled and presented at fall BH&SC meeting

Baseline Questionnaire

- Find out where everyone is now
- Background: processes, no. samples, rad vs non-rad
- Surface wipe sampling methods
 - HUD 1995 guidelines
 - NIOSH 9100
 - ASTM D6966-03
 - ASTM E1728-02
- Digestion protocols
 - H_2SO_4 , HNO_3 , H_2O_2 , HCl , HF , HClO_4 , NH_4HF_2
 - Hotblock, hotplate, microwave

Baseline Questionnaire (cont.)

Air Analysis

- Accreditation (DOELAP, AIHA, DOECAP, EPA, U.K. HSE, or others) or declared equivalent (10CFR850)
- Method
 - NIOSH 7102 (GFAA)
 - NIOSH 7300 (IEC-ES)
 - SW-846 3051 (microwave, HNO₃)
 - SW-846 3052 (microwave, silicious/organic)
 - SW-846 6010B (ICP-ES)
 - SW-846 6020 (ICP-MS)
 - SW-846 7090 (Flame AA)
 - SW-846 7091 (GFAA)
- Detection limits
- Quality Control
- Interferences and how corrected

Similar questions for surface wipe analysis

Where Do We Go from Here?

Sampling (10 action items)

- Perform additional studies
- Develop/enhance standard ASTM method(s)
 - Wet (D6966) and dry (new method) wipes
 - Bulk sampling
 - Vacuum sampling (expand ASTM E1973?)
- Investigate ways to swipe materials more consistently
 - Example: LANL (Torsten Staab) surface sampler
- Questionnaire results may drive new actions

Where Do We Go from Here?

Digestion (8 action items)

- Compare existing methods
- Identify robust method for all forms (incl. high-fired BeO)
- Determine hold time limits, if any
- Communicate with AIHA

Where Do We Go from Here?

Analysis/Reporting/Accreditation (10 action items)

- Develop ASTM standard method(s)
- Develop round-robin plan (tent.)
- Develop guidance on method and instrument validation
- Questionnaire results may drive new actions

Where Do We Go from Here?

Future Needs (2 action items)

- Pursue BeO standard reference material
- (Near) real-time monitoring equipment
- Questionnaire results may drive new actions

Where Do We Go from Here?

Cross-Cutting Issues (6 action items)

- Expand subcommittee membership
- Develop list of common terms
- Interface issues (e.g., LIMS and IH databases)

Issues for Full BH&SC

- Sampling
 - Appropriate uses of wet and dry wipes
 - Wet on hard surfaces and dry on soft surfaces?
 - Appropriate wetting material
 - Water? Oil? Acid?
- Analysis/Reporting/Accreditation
 - Matrix matching for proficiency samples
 - May defer until questionnaire results compiled
- Cross-Cutting
 - Expand subcommittee membership
 - Commercial labs (via AIHA) and sampling expertise

Conclusions

- Subcommittee has broad membership which is continuing to grow
- Currently 36 action items being worked; more expected after questionnaire results compiled
- Regular conference calls
- Next subcommittee meeting at fall BH&SC meeting
 - Summary of questionnaire results
 - Additional issues for full BH&SC discussion

Your Input is Welcomed

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